reconsideration of this application. No new matter is incorporated by this Supplemental Amendment.

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Claims 1-5 and 11-14 are rejected under 35 U.S.C. 103(a) as being obvious based on the Lavin patent (U.S. Pat. No. 6,020,281). Applicant respectfully traverses this rejection.

In addition to the arguments presented in the previous response dated May 21, 2001, Applicant additionally asserts the following. Lavin is concerned with finding an adsorbent-desiccant in a circulating refrigerant stream comprising R-32, in order to gain protection against freeze-ups and corrosion for a refrigeration unit. See Column 2, Lines 38-42. This problem arises from the fact that, although a purified and dried refrigerant fluid is sealed in the refrigeration unit, water cannot be prevented to enter during the life of the unit, namely because the system cannot be perfectly water-proofed. See Column 2, Lines 43-49. The specific problem with R-32, as taught by this reference, is that R-32 is more reactive with zeolites than other zeolites (including zeolite 3A) because of its small size which enables the R-32 molecules to enter the pores of the zeolite in such a way that the molecular sieve adsorbs the 32 molecules, with the practical result that the dessicant can lose significant water adsorption capacity. See Column 3, Lines 12-18 and 26-32). Therefore, the teaching of this reference, contrary to the assertion of the Office Action, is that zeolites, including zeolite 3A, cannot be used to dry R-32 circulating in a

refrigeration unit.

The patent solves the above mentioned problem by providing a dessicant which, in the conditions of stationary refrigeration systems, does not adsorb difluoromethane refrigerant, while adsorbing water. See Column 3, Lines 40-43). This dessicant consists of an activated potassium cation form of zeolitic A molecular sieve, further agglomerated with a clay binder and pore closed. An essential step to obtain such a pore closed dessicant agglomerate is to contact the zeolite crystals and binder with water vapor at an elevated temperature for a sufficient time. See Column 6, Lines 43-57. All the examples which illustrate the dessicant according to Lavin's invention incorporate this step which is also a technical feature of claim 1 (see step c).

The Office Action contends that Lavin discloses drying F-32 with a 3A type molecular sieve at the recited temperature. This assertion is based on col. 7, Line 25 and col. 8, Line 35, and, for the temperature col. 7, Line 29 and col. 8, Line 46. Applicant respectfully disagrees with this assertion. In Column 7, Line 25, Lavin says that "dessiccants 3A-6 and 3A-9 are commercial molecular sieves commonly used in stationary refrigeration facilities". He does not say that these refrigeration facilities use F-32 as a refrigeration fluid, so he does not teach that the dessiccants are used to dry F-32. Lavin goes on saying, on the following line, that "F-32 liquid adsorptions for 3A-6 and 3A-9 as shown in Table 1 are about 15 g/l at 52°C . One has to view Column 6, Lines 57-62 to read about the conditions in which this laboratory test is implemented.

The test comprises exposing a 5 g sample of activated molecular sieve to 40 g of liquid R-32 at 52°C. The test does not say, nor does it suggest that the liquid R-32 which has been used, does include water. For a laboratory test, one skilled in the art would normally use a commercially available F-32 grade, which does not require drying, unless it has become contaminated with water following an extended use in a refrigeration unit. It is clearly not the case. The reason for this laboratory test is clearly to prove that the dessicant of Lavin has essentially no capacity for the adsorption of R-32 (only 0.2 % 32 adsorption in Table 1, Column 7, Lines 46-48), and is therefore acceptable to dry R-32. On the contrary, the known dessicants of the 3A type have a 32 absorption of about 15% (see table 1) which makes them unsuitable for drying R-32.

Column 8, Line 35 is part of a description of a R-32 adsorption procedure employed in the examples. This procedure therefore applies to the adsorbent taught by Lavin which are not 3A molecular sieves, but modified 3A molecular sieves by means of the pore-reducing treatment of step c of claim 1. Therefore the cited columns and lines do not support the assertion that a 3A type molecular sieve is used to dry F-32. In fact, it is the opposite: one skilled in the art who wants to dry F-32 circulating in a refrigeration unit is taught by Lavin not to use a type A molecular sieve.

Therefore, one of ordinary skill in the art addressing the similar problem of our invention to dry F-32, using a simple, commercially available molecular sieve which can be used in a plant for the industrial production of F-32 (see instant specification at page 6

to page 7) would be taught away from contemplating a type A molecular sieve according to our invention, thanks to Lavin.

The fact that the type A sieves of Applicant's claim 1 solve our problem is evidenced by example 1 (in particular) of the present application. This fact is therefore totally obvious.

Applicants submit that the outstanding rejection is overcome. Reconsideration and withdrawal are respectfully requested.

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Claims 6-8 and 15-19 are rejected under 35 U.S.C. 103(a) as obvious based on Lavin in combination with the Sherman patent (U.S. Pat. No. 4,663,052). Applicant respectfully traverses the rejection.

Sherman relates to a process for drying acidic streams (Column 1, Line 58) implementing a particular chabazite-type zeolite (defined in claim 1). The meaning of "acidic streams" is very broad and covers, in a more restricted meaning, acid gases containing halogenated (and/or partially halogenated) hydrocarbons and oxygenated hydrocarbons. See Column 4, Lines 47-50. Among the halogenated hydrocarbons, a list of specific compounds is given at col. 4 lines 54-61, most of them are CFC (ChloroFluoroCarbons). Further, this process is said to be preferably employed to dry gaseous hydrocarbons containing 1 to 5 carbon atoms. See Column 4, Lines 63-66. Therefore, this reference does not solve the same problem as Lavin of drying a stream

comprising R-32 which is a very specific HFC (without chlorine) and having 1 carbon atom, nor suggests any particular problem in relation with the size of F-32 in comparison with water.

In fact, Sherman relates to a period (1987) where the Protocol of Montreal had just been signed, and when there was no particular interest for addressing the problem of substitution of CFC's. As the 2 references solve different problems, even contradictory (CFC versus a specific HFC), one of ordinary skill in the art is not motivated to combine them.

Even, assuming *arguendo* that one of ordinary skill in the art were motivated to do so, since he is taught away from present claim 1 Lavin, the combination of the regeneration stage as suggested by Sherman would not remedy the deficiencies of Lavin. So, the ordinary skilled artisan would not arrive at the subject matter of claims 6-8 of Applicant's invention.

Applicants submit that the outstanding rejection is overcome. Reconsideration and withdrawal are respectfully requested.

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Applicant respectfully submits that this Amendment and the above remarks along with the Amendment and comments filed April 25, 2001 overcome all of the outstanding rejections in this case, thereby placing the application in condition for immediate allowance. Allowance of this application is earnestly solicited.

If any additional fees are due in connection with the filing of this Supplemental Preliminary Amendment or the accompanying papers, such as fees under 37 C.F.R. §§ 1.16 or 1.17, please charge the fees to our Deposit Account No. 02-4300; Order No. 033808.107.

If an additional extension of time under 37 C.F.R. § 1.136 is necessary that is not accounted for in the papers filed herewith, such an extension is requested. The additional extension fee also should be charged to Deposit Account No. 02-4300; Order No. 033808.107.

Any overpayment can be credited to Deposit Account No. 02-4300; Order No. 033808.107.

Respectfully submitted,

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